Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of transmitting packets between first and second networks of different address formats, comprising ~~the steps of~~:

[[a)]] receiving, from a first network, a packet containing first address data conforming to said first network format and second address data conforming to said second network format, said first address data being contained in a packet header of the packet and said second address data being contained in an auxiliary header of the packet;

~~b) rewriting~~ swapping said first address data [[with]] and said second address data within the packet; and

[[c)]] transmitting the packet to said second network based on the second address data.

2. (original) The method of claim 1, wherein said auxiliary header further contains auxiliary information.

3. (canceled)

4. (canceled)

5. (currently amended) ~~The method of claim 1, wherein the step (b) comprises the steps of~~ A method of transmitting packets between first and second networks of different address formats, comprising:

receiving, from a first network, a plurality of packets, at least one of the packets containing first address data conforming to said first network format and second address data conforming to said second network format, said first address data being contained in a packet header of the at least one of the packets and said second address data being contained in an auxiliary header of the at least one of the packets;

making a search through a received packet to determine whether the received packet includes an auxiliary header;

examining a database if said auxiliary header is not contained in the received packet ~~and detecting~~ to identify address data mapped to said first address data; [[and]]

converting the first address data with the ~~detected~~ identified address data; and

transmitting the received packet to said second network based on the identified address data.

6. (currently amended) An address converter ~~for use in~~ within a gateway connected between first and second networks ~~of different~~ with first and second network address formats, respectively, comprising:

receive means for receiving, from said first network, a packet containing first address data conforming to said first network format and second address data conforming to said second

network format, said first address data being contained in a packet header of the packet and said second address data being contained in an auxiliary header of the packet;

control means for ~~rewriting~~ swapping said first address data [[with]] and said second address data; and

transmit means for transmitting the packet to said second network based on the second address data.

7. (original) The address converter of claim 6, wherein said auxiliary header further contains auxiliary information.

8. (canceled)

9. (canceled)

10. (currently amended) ~~The address converter of claim 6, wherein said control means comprises a database and is arranged to~~ An address converter within a gateway connected between first and second networks with first and second network address formats, respectively, comprising:

means for receiving, from said first network, a plurality of packets, at least one of the packets containing first address data conforming to said first network format and second address data conforming to said second network format, said first address data being contained in a

packet header of the at least one of the packets and said second address data being contained in an auxiliary header of the at least one of the packets;

~~make a search~~ means for searching through a received packet to determine whether the received packet includes an auxiliary header;

~~examine said~~ means for examining a database if said auxiliary header is not contained in the received packet ~~and detecting~~ to identify address data mapped to said first address data;

[[and]]

~~convert~~ means for converting the first address data with the ~~detected~~ identified address data; and

means for transmitting the received packet to said second network based on the identified address data.

11-16. (canceled)

17. (previously presented) The method of claim 1, wherein both said first address data and said second address data are used for routing purposes by said first network and said second network, respectively.

18. (currently amended) The method of claim 17, wherein both said first address data and said second address data are used for routing the packet to or from a gateway.

19. (previously presented) The address converter of claim 6, wherein both said first address data and said second address data are used for routing purposes by said first network and said second network, respectively.

20. (currently amended) The address converter of claim 19, wherein both said first address data and said second address data are used for routing the packet to [[a]] or from the gateway.

21. (new) A gateway connected between first and second networks with first and second network address formats, respectively, comprising:

a first interface to receive, from the first network, a packet that includes first address data conforming to the first network format and second address data conforming to the second network format, the first address data being contained in a packet header of the packet and the second address data being contained in an auxiliary header of the packet;

an address converter to store the first address data in the auxiliary header and the second address data in the packet header of the packet; and

a second interface to transmit the packet to the second network based on the second address data.

22. (new) A gateway connected between first and second networks with first and second network address formats, respectively, comprising:

a first interface to receive, from the first network, a plurality of packets, at least one of the packets including first address data conforming to the first network format in a packet header of the at least one of the packets and second address data conforming to the second network format in an auxiliary header of the at least one of the packets;

an address converter to:

determine whether a received packet includes an auxiliary header,

identify address data mapped to the first address data when the received packet does not include an auxiliary header, and

convert the first address data to the identified address data; and

a second interface to transmit the received packet to the second network based on the identified address data.

23. (new) The gateway of claim 22, wherein the address converter is further configured to:

determine whether the auxiliary header includes the second address data when the received packet includes an auxiliary header,

search a memory to identify address data mapped to the first address data when the auxiliary header does not include the second address data, and

convert the first address data to the identified address data.

24. (new) The address converter of claim 10, further comprising:

means for determining whether the auxiliary header includes the second address data when the received packet includes an auxiliary header;

means for searching a memory to identify address data mapped to the first address data when the auxiliary header does not include the second address data; and

means for converting the first address data to the identified address data.

25. (new) The method of claim 5, further comprising:

determining whether the auxiliary header includes the second address data when the received packet includes an auxiliary header;

searching a memory to identify address data mapped to the first address data when the auxiliary header does not include the second address data; and

converting the first address data to the identified address data.